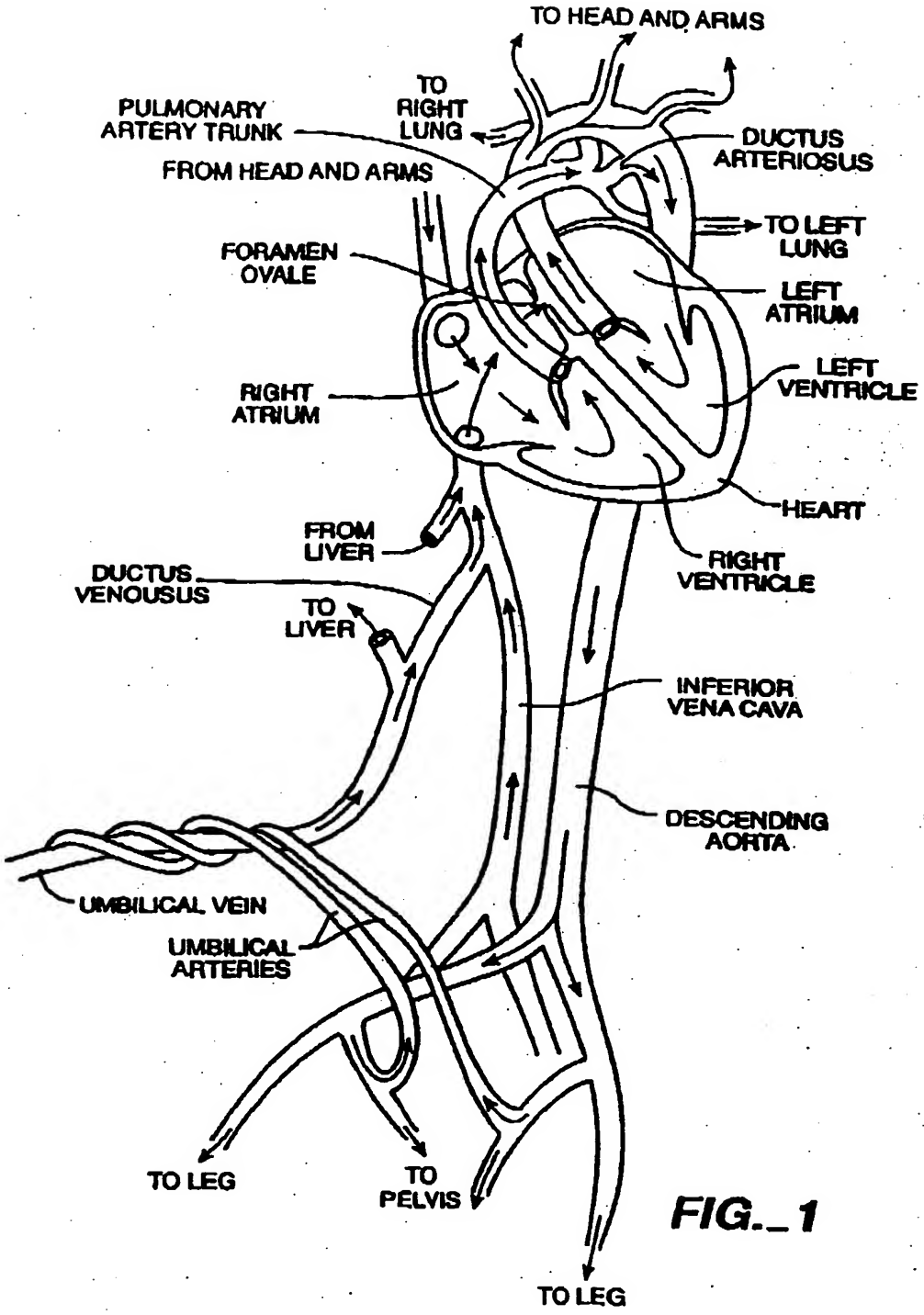

TO HEAD AND ARMS
TO RIGHT LUNG
PULMONARY ARTERY TRUNK
FROM HEAD AND ARMS
DUCTUS ARTERIOSUS
TO LEFT LUNG
FORAMEN OVALE
LEFT ATRIUM
LEFT VENTRICLE
RIGHT ATRIUM
HEART
FROM LIVER
DUCTUS VENOUSUS
TO LIVER
RIGHT VENTRICLE
INFERIOR VENA CAVA
DESCENDING AORTA
UMBILICAL VEIN
UMBILICAL ARTERIES
TO LEG
TO PELVIS
TO LEG

FIG._1

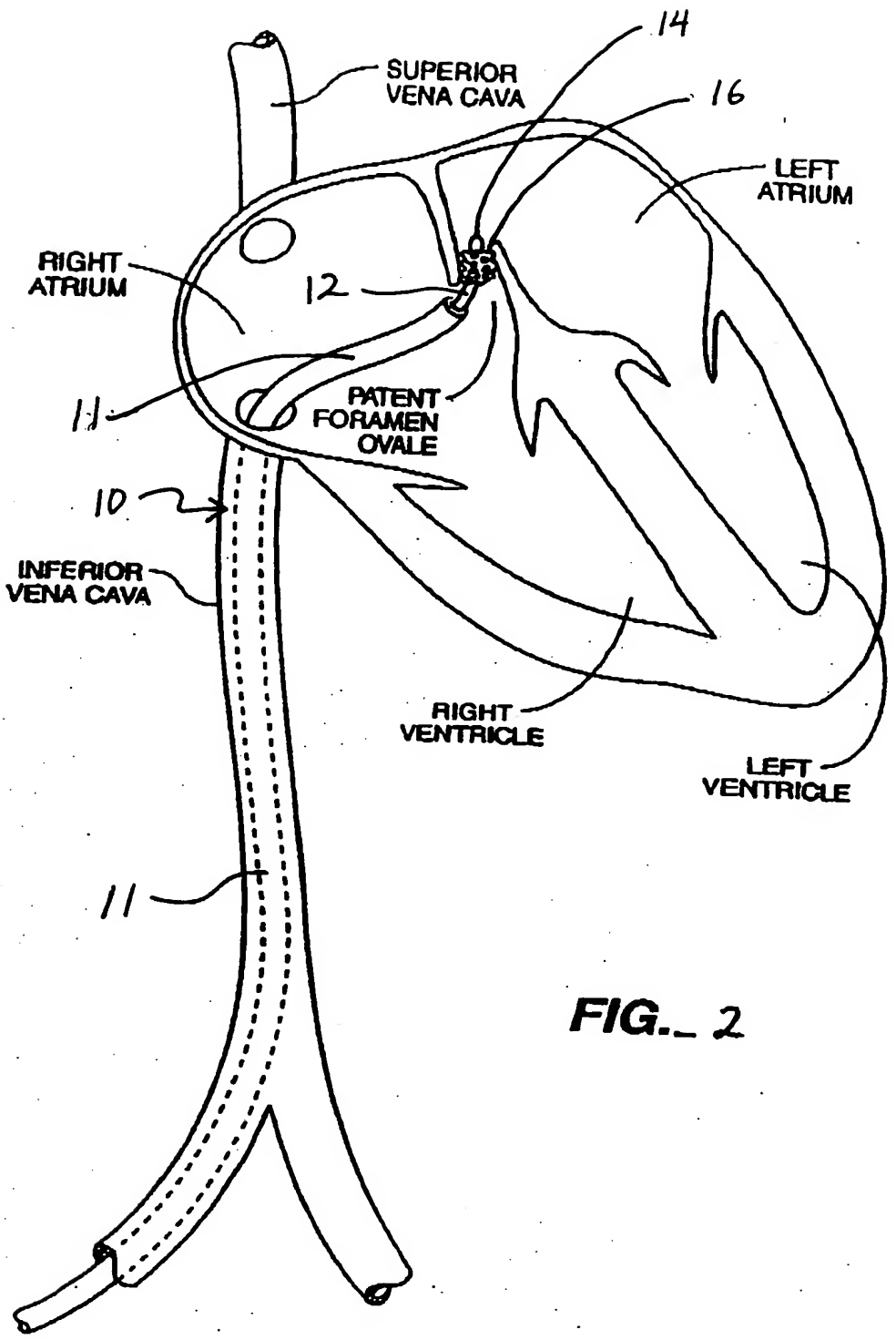
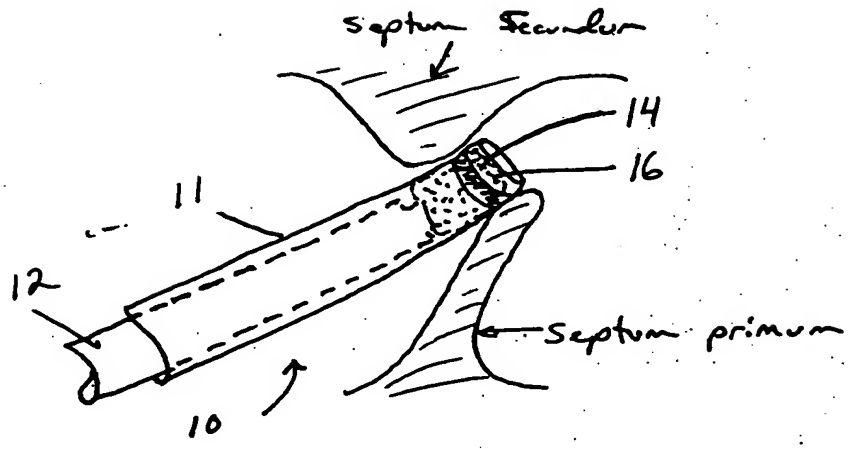

14
SUPERIOR VENA CAVA
16
LEFT ATRIUM
RIGHT ATRIUM
12
11
PATENT FORAMEN OVALE
10
INFERIOR VENA CAVA
RIGHT VENTRICLE
LEFT VENTRICLE
11

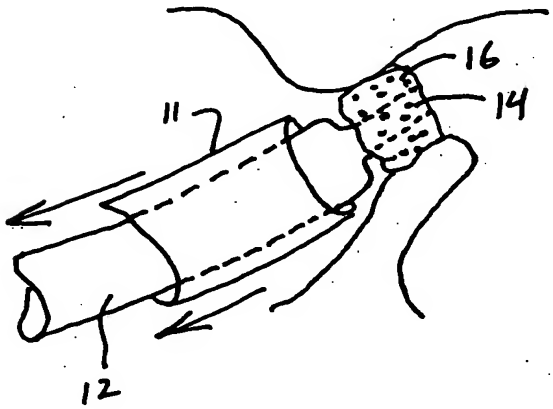
FIG._ 2

FIGURE 3

1) System introduced into PFO



i) Outer Sheath withdrawn energy applied



c) Delivery System withdrawn

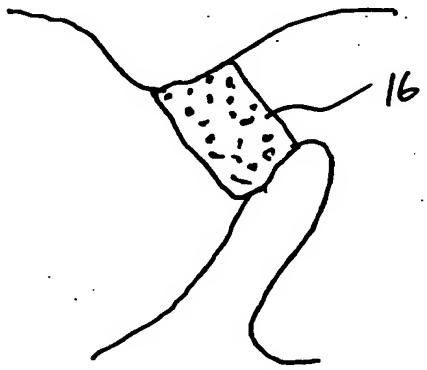


FIGURE 4

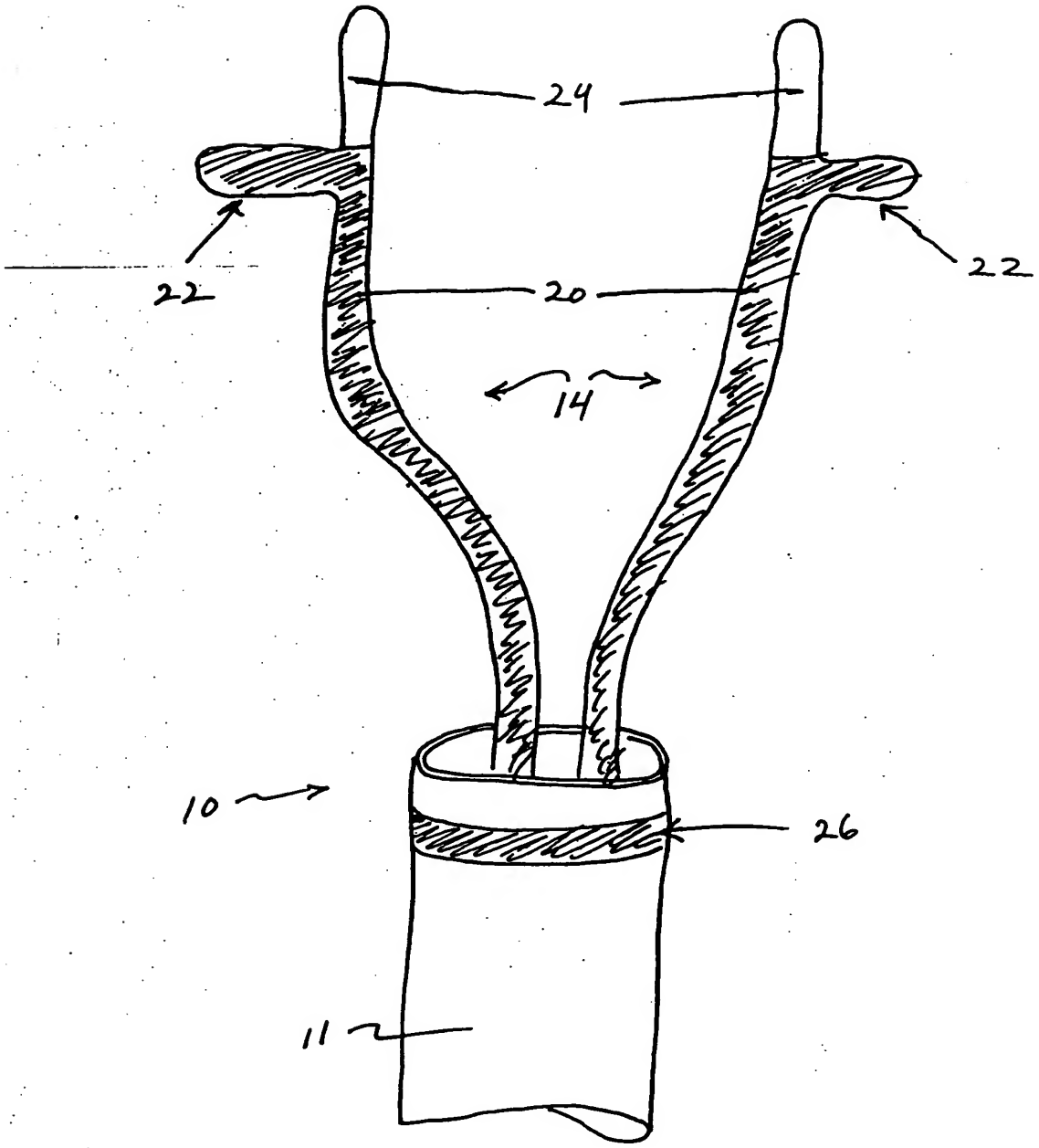
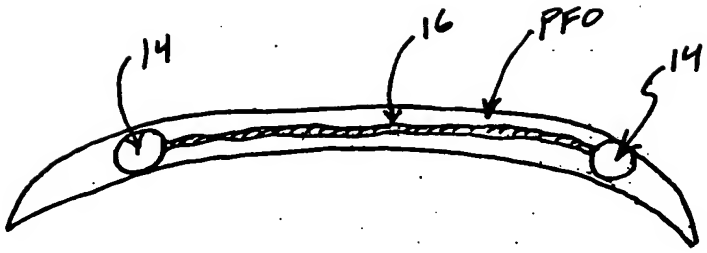


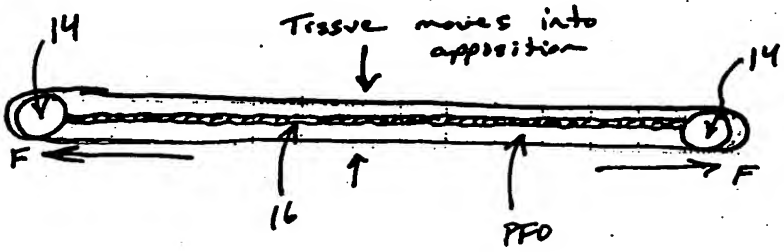
FIGURE 5

5A)



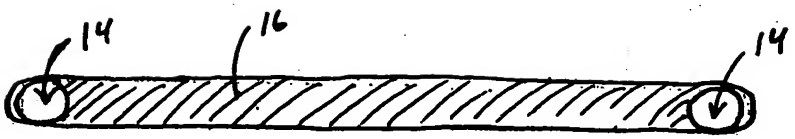
fishmouth electrodes and matrix in place

5B)



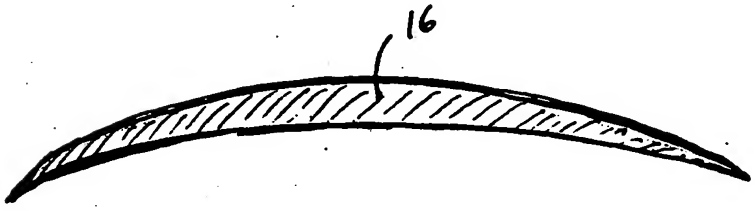
electrodes move laterally to appose PFO tissues

5C)



matrix expands to fill all gaps + spaces in PFO

5D)



final result- PFO with matrix welded in place

FIGURE 6

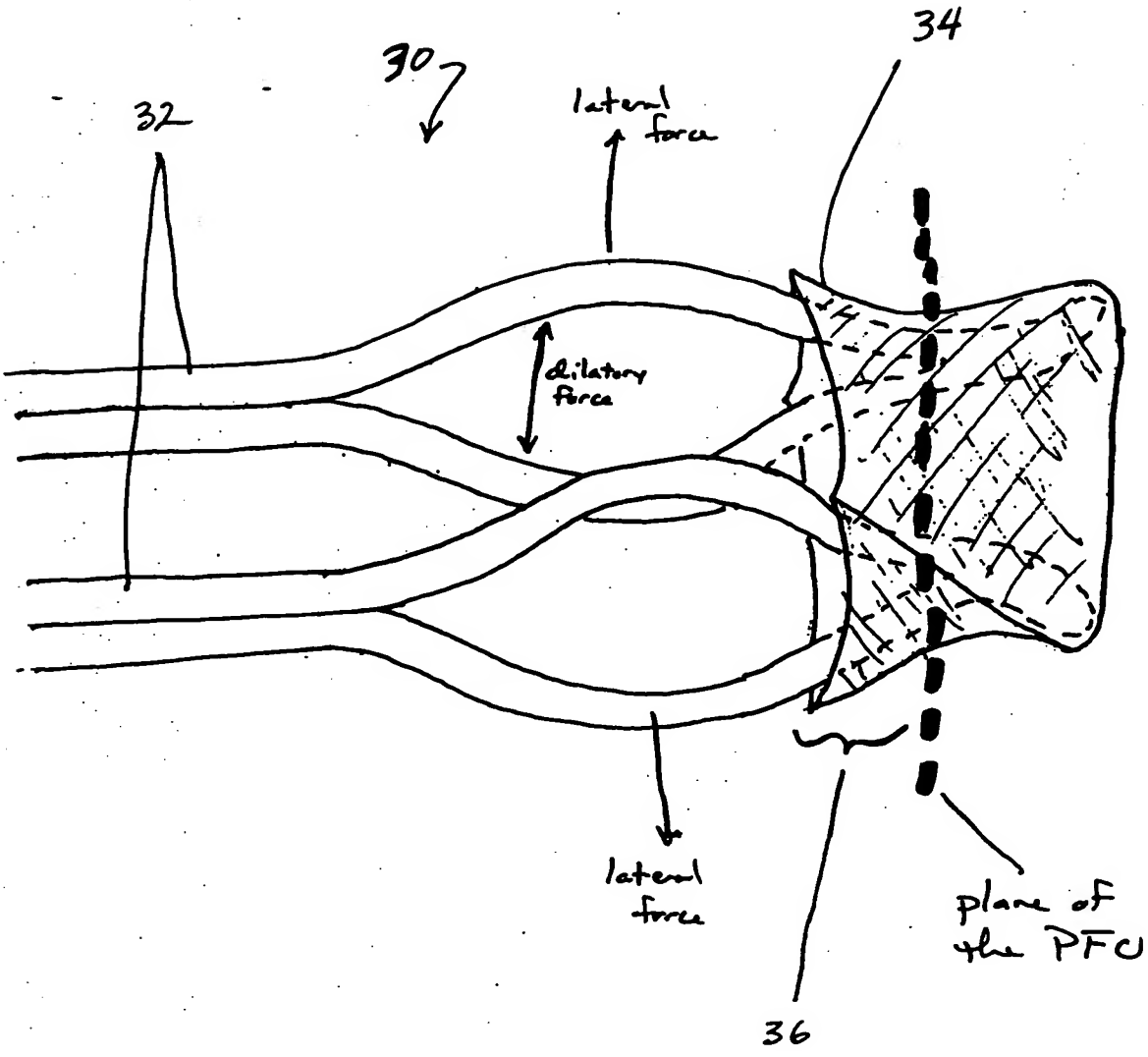

30
32
34
lateral force
dilatory force
lateral force
plane of the PFO
36

FIGURE 7

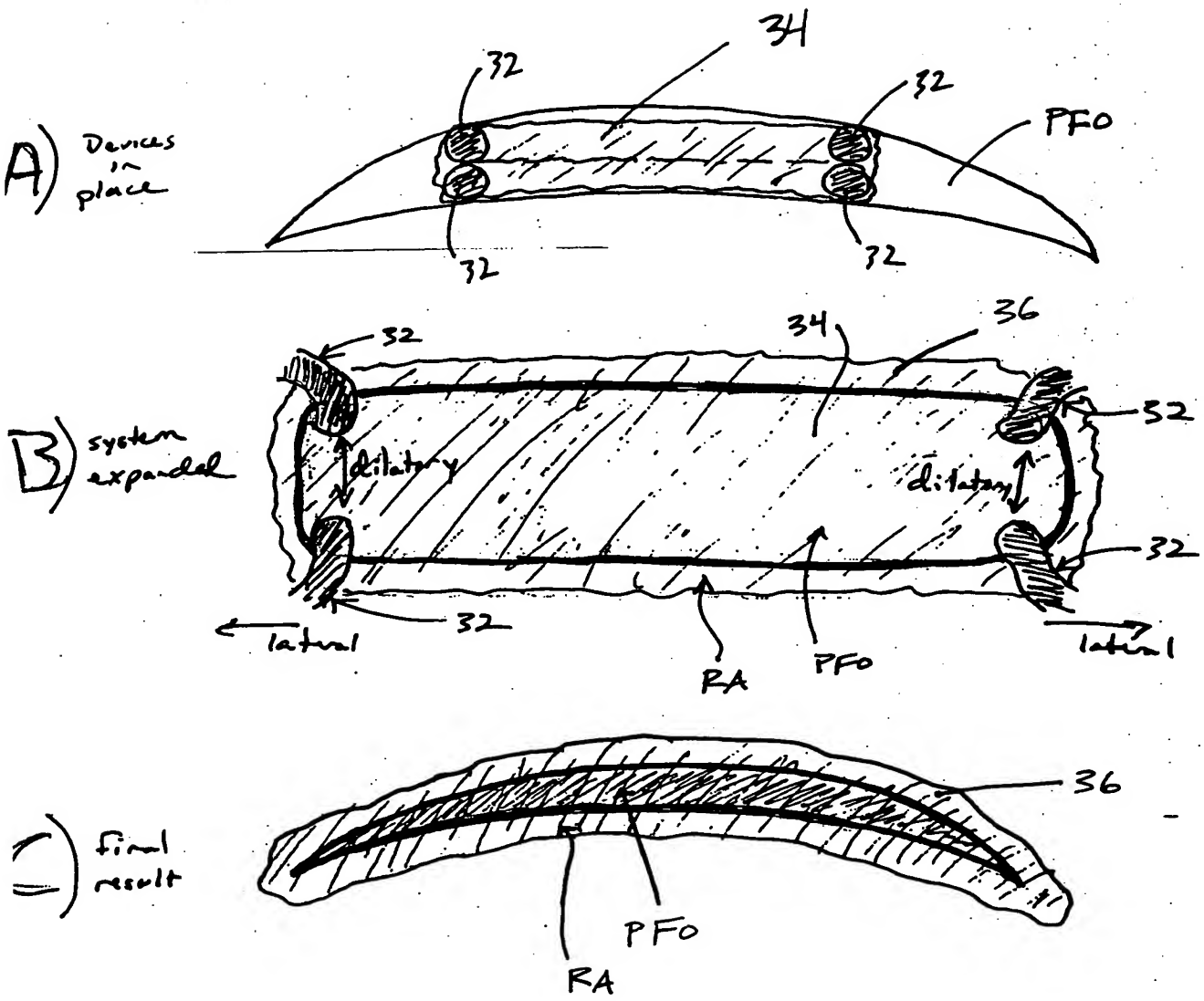

A) Devices in place
34
32
32
PFO
32
32
B) system expanded
32
34
36
52
dilatory
dilatory
32
32
lateral
RA
PFO
lateral
C) final result
36
PFO
RA

FIGURE 8

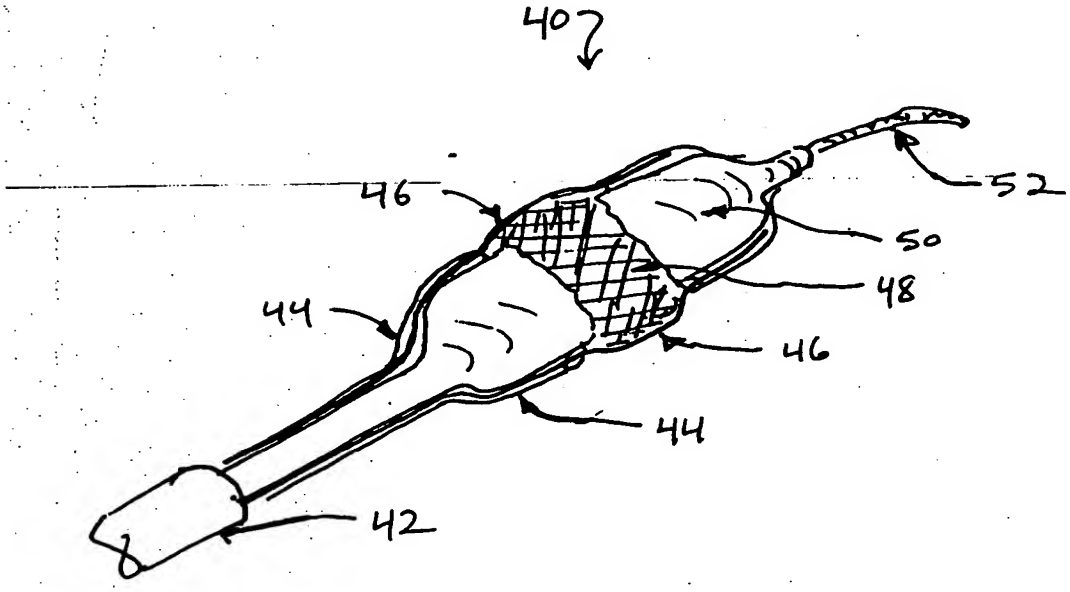
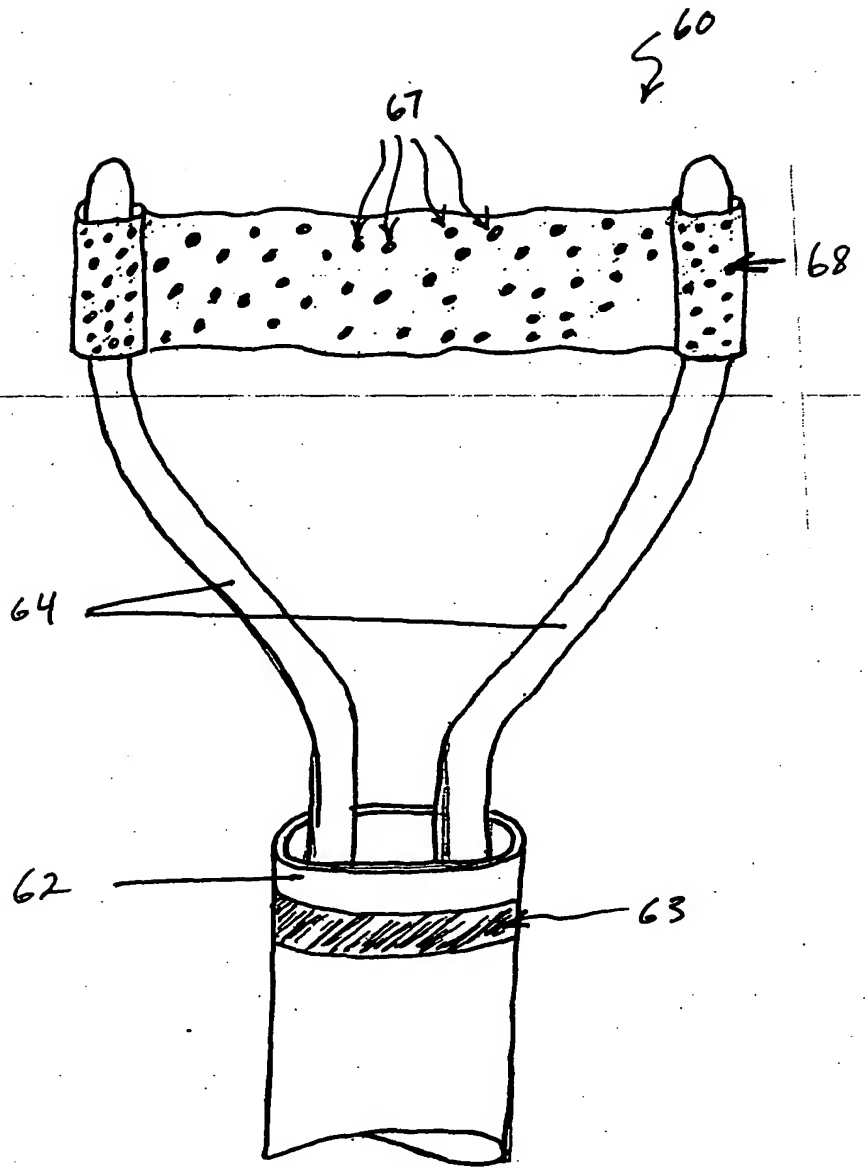
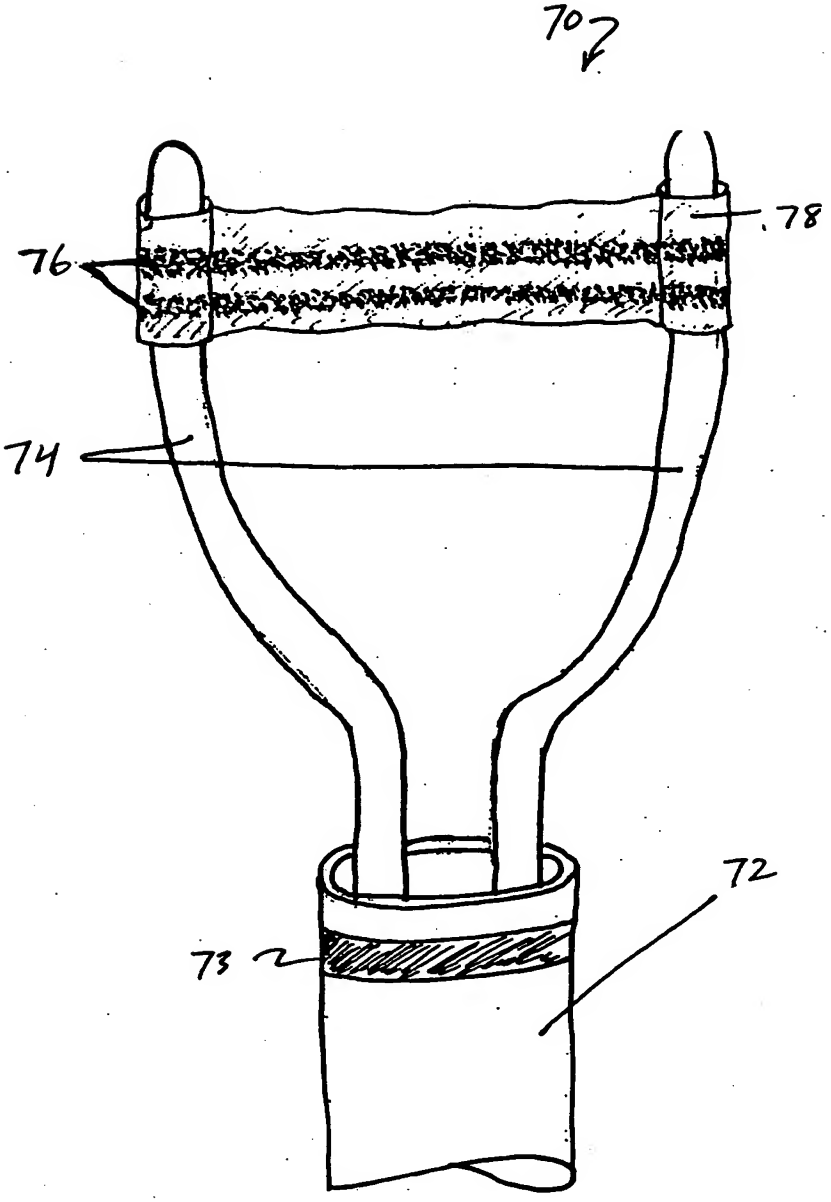


FIGURE 9



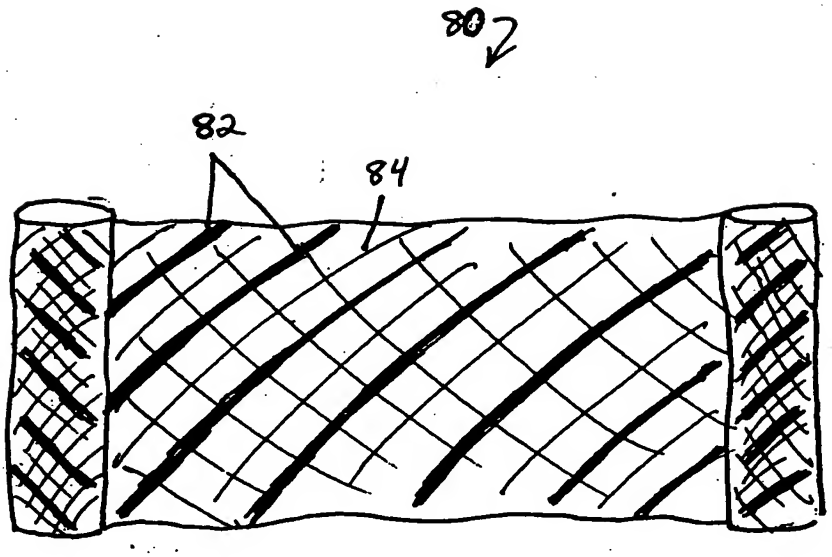
Doped matrix reduces tissue impedance + assists energy delivery

FIGURE 10



Doping particles form conductive wires that disintegrate upon matrix resorption

FIGURE 11



Woven patch with conductive elements

FIGURE 12

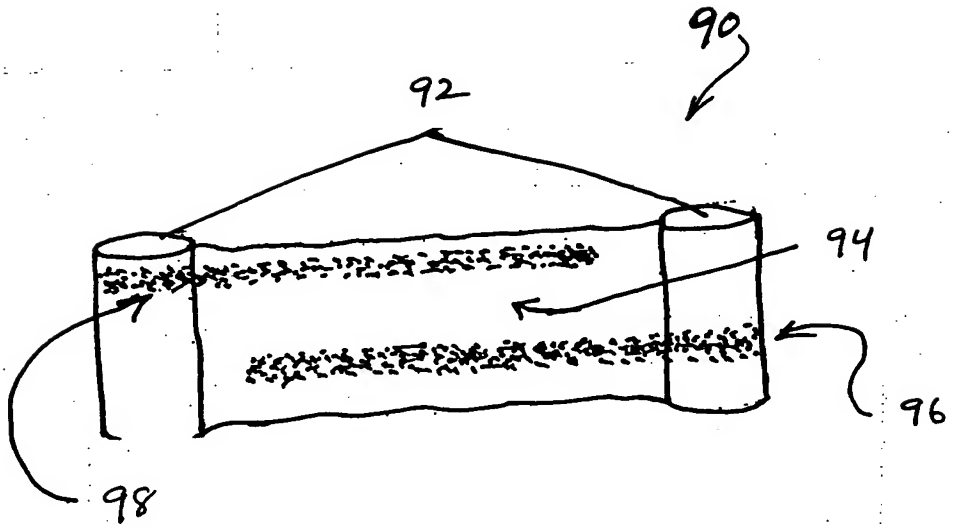
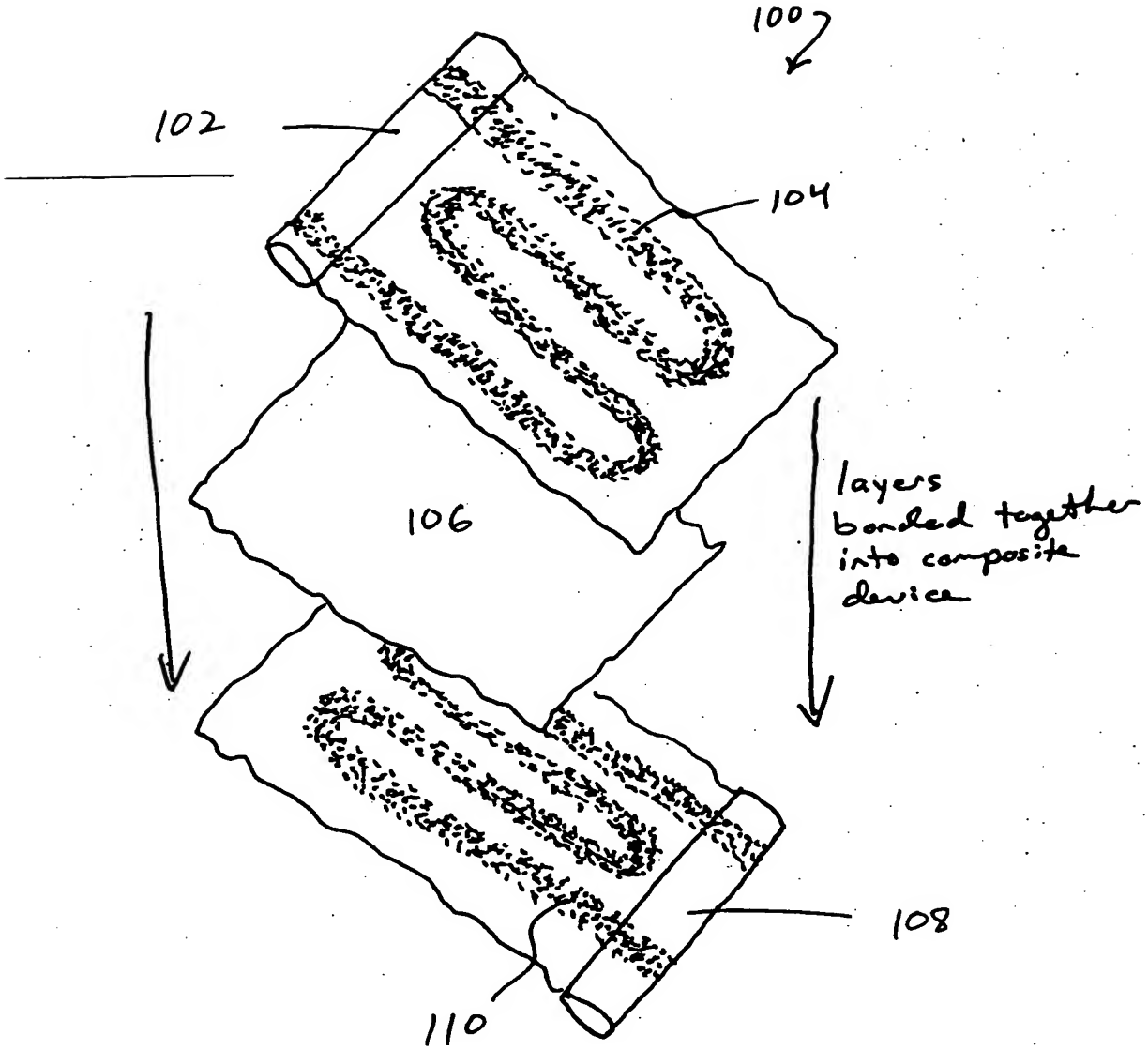


FIGURE 13


100
102
104
106
layers bonded together into composite device
108
110

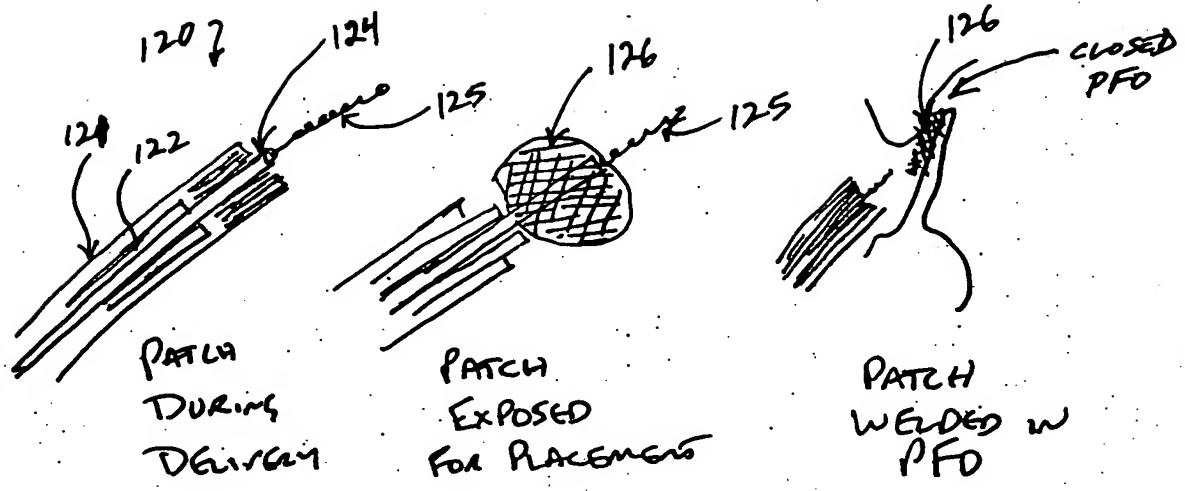

120
124
125
124
122
PATCH DURING DELIVERY
126
125
PATCH EXPOSED FOR PLACEMENT
126
CLOSED PFO
PATCH WELDED IN PFO

FIG-14

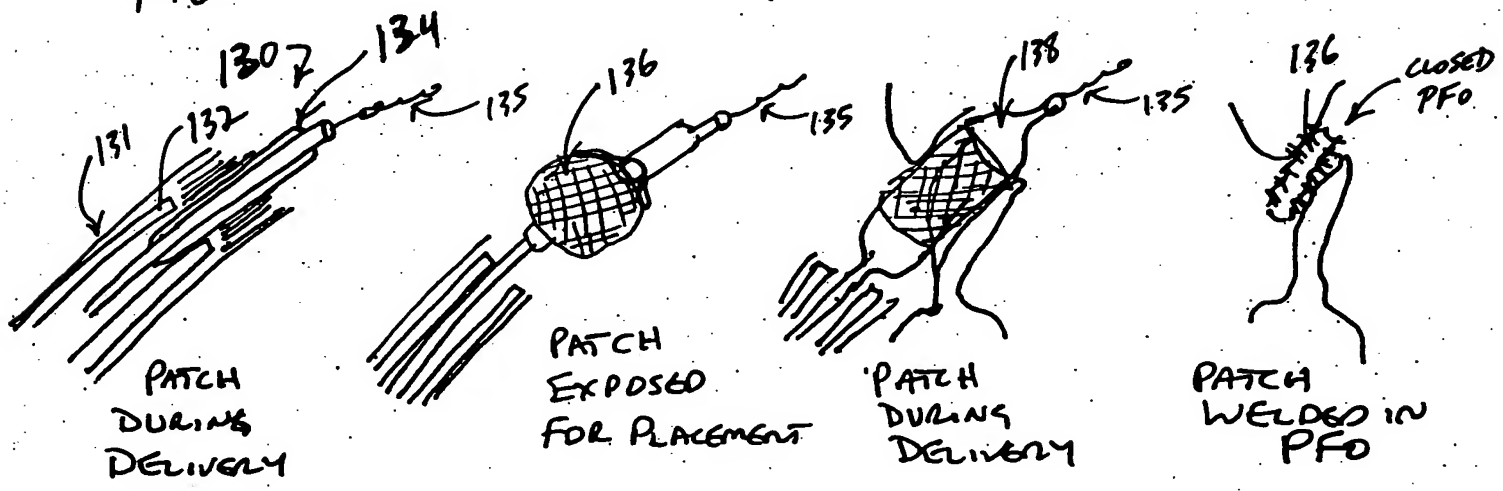
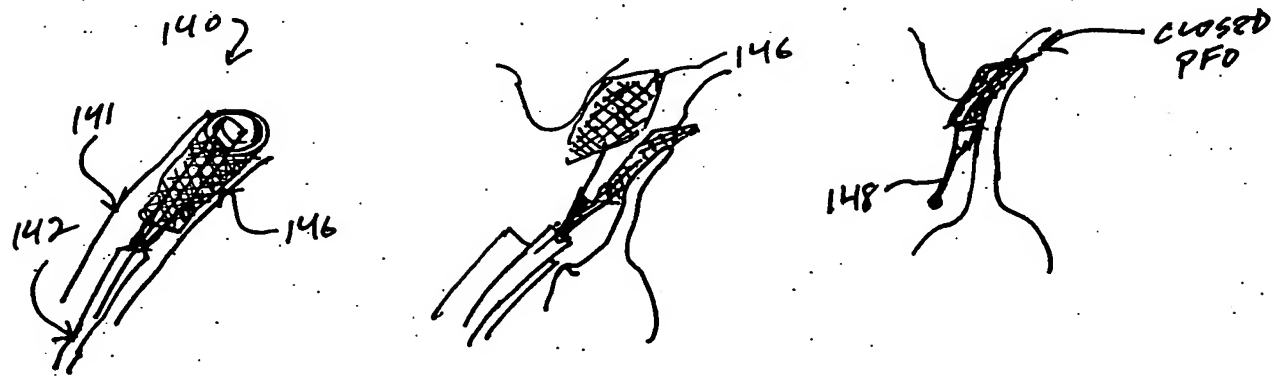
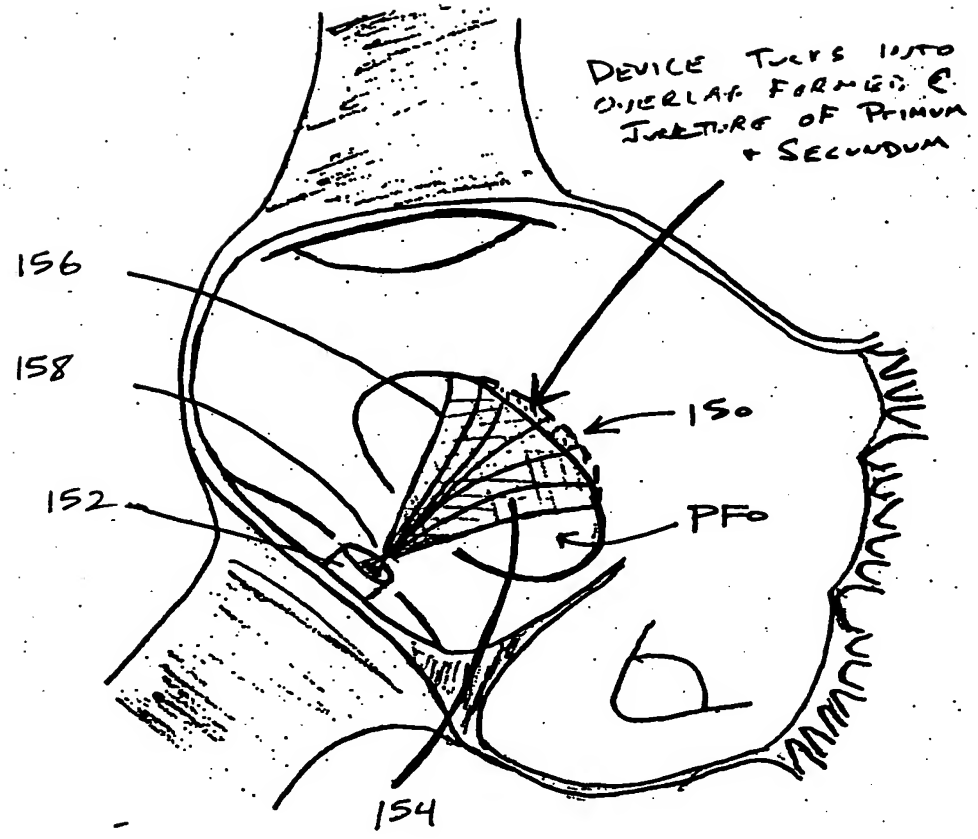

130
134
135
131
132
PATCH DURING DELIVERY
136
135
PATCH EXPOSED FOR PLACEMENT
138
135
PATCH DURING DELIVERY
136
CLOSED PFO
PATCH WELDED IN PFO

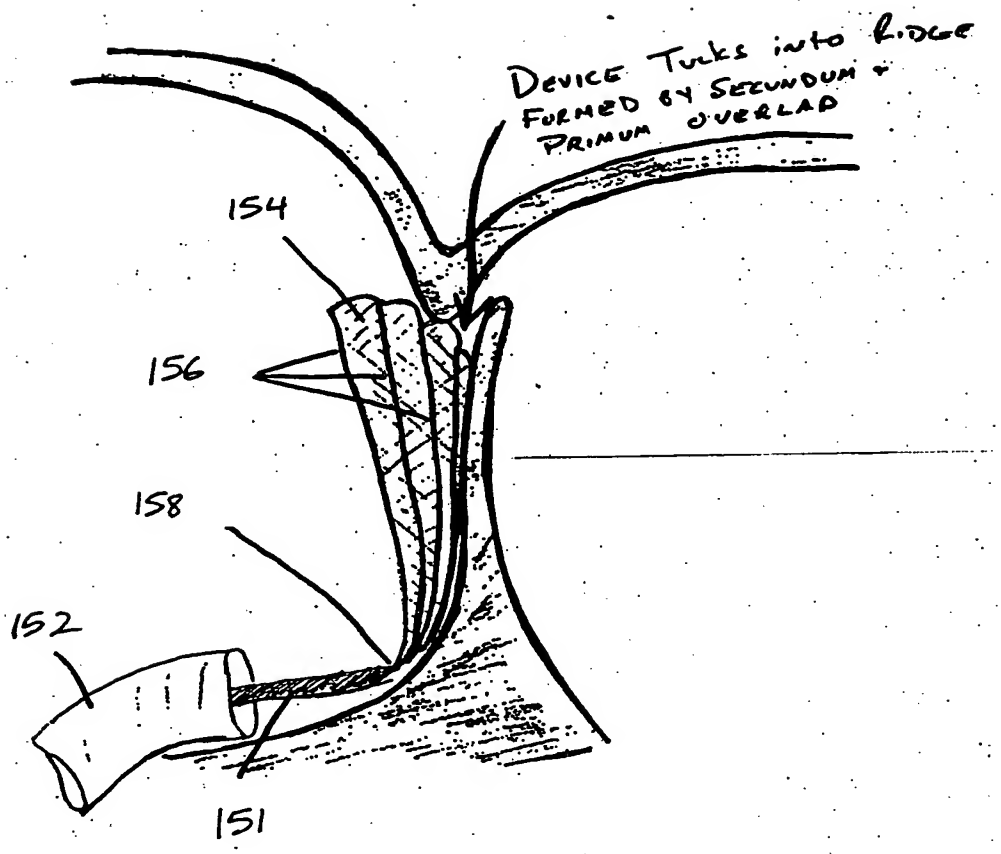
FIG-15


140
141
142
146
PATCH DURING DELIVERY
146
PATCH DURING PLACEMENT
CLOSED PFO
148
PATCH AFTER PLACEMENT



RF PATCH - R. ATRIUM
CUTAWAY VIEW

FIG-17A



RF PATCH - SEPTUM CROSS SECTIONAL VIEW

FIG-17B

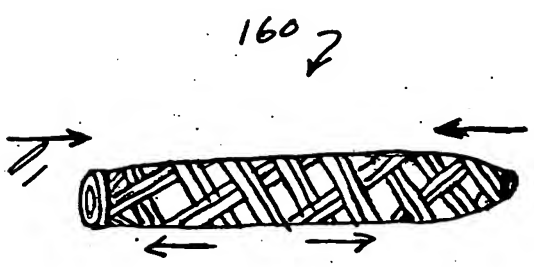


FIG- 18A

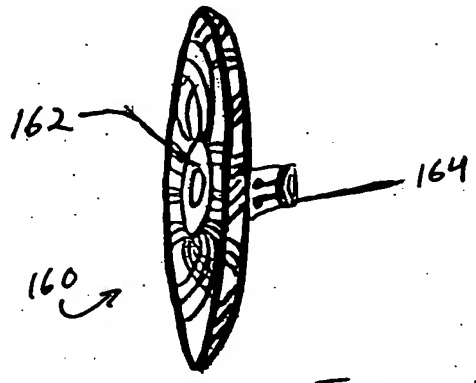


FIG- 18B

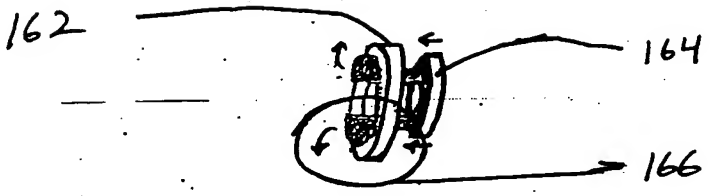


FIG-19

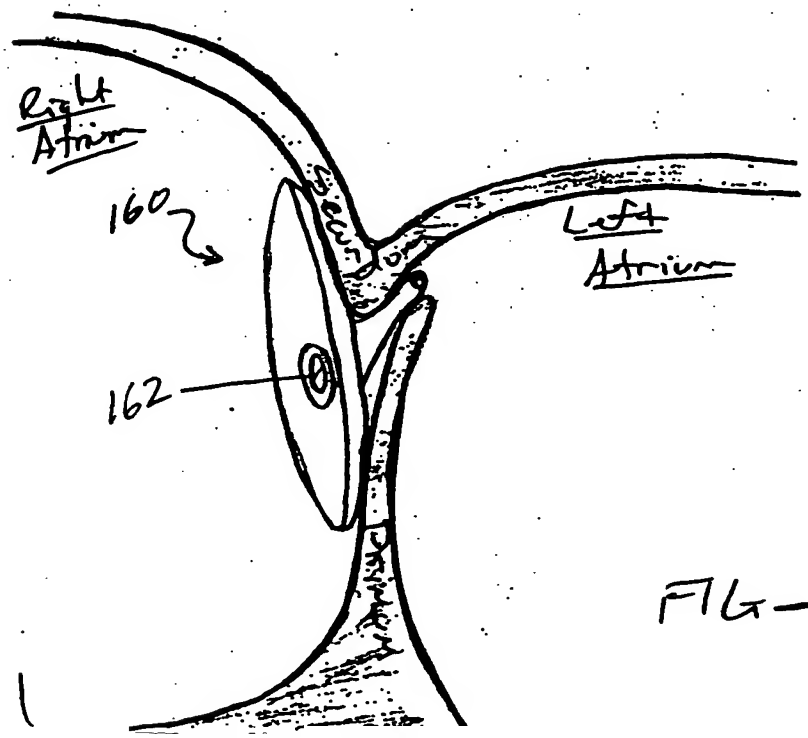


FIG-20

infusion ports allow testing of device placement by bubble/echo contrast testing prior to permanent deployment

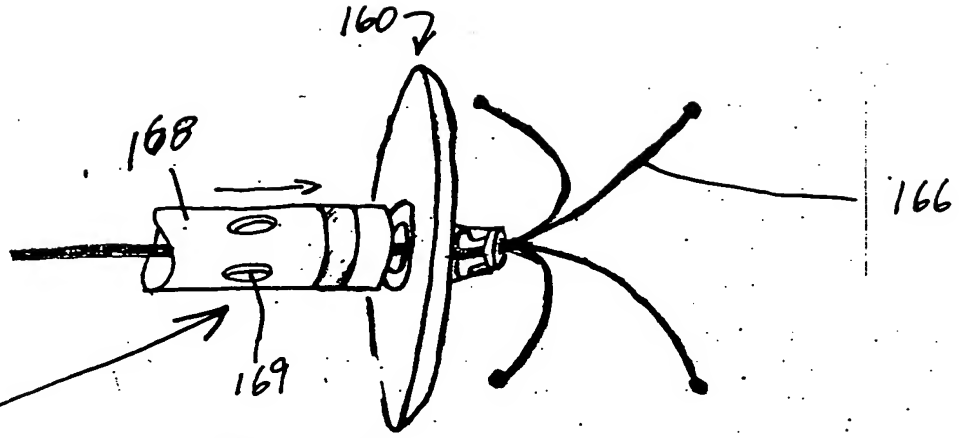


FIG 21A

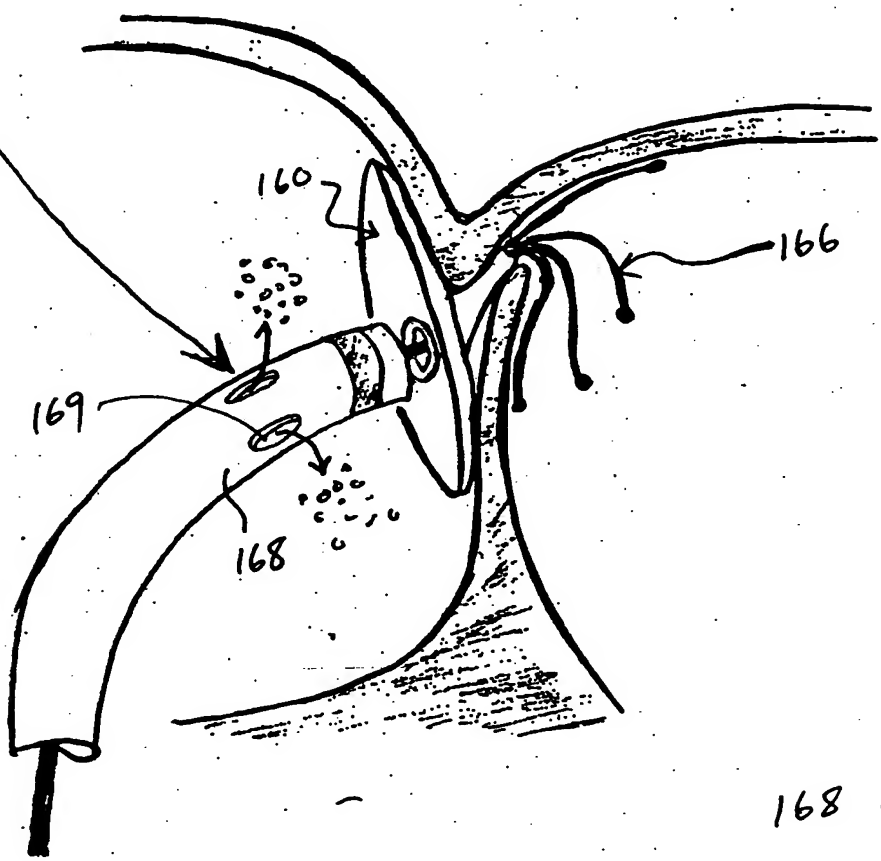


FIG- 21B

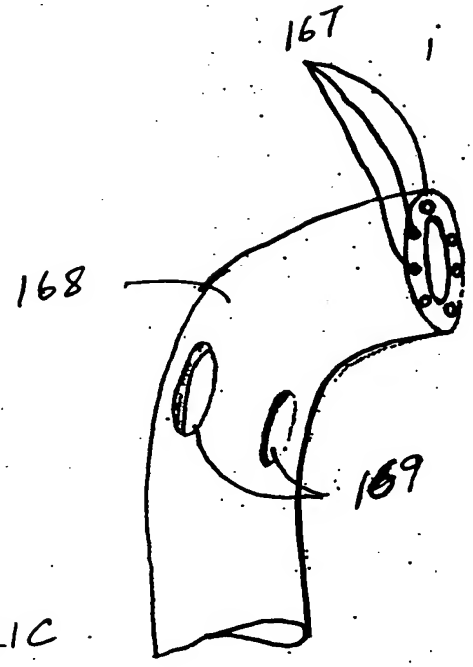


FIG- 21C

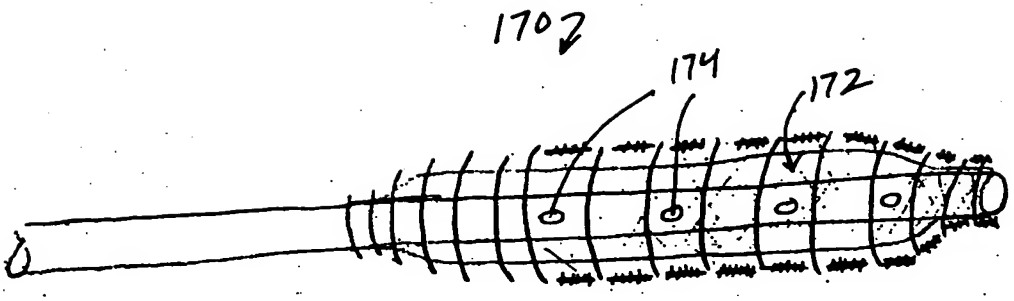


FIG_ 22A

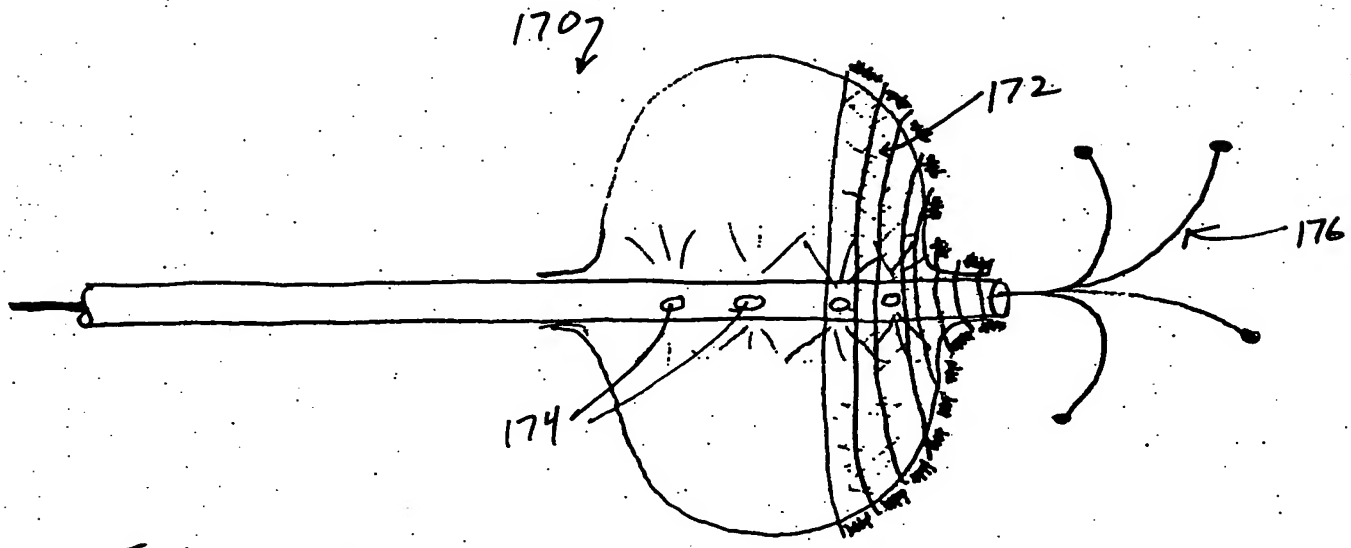


FIG- 22B

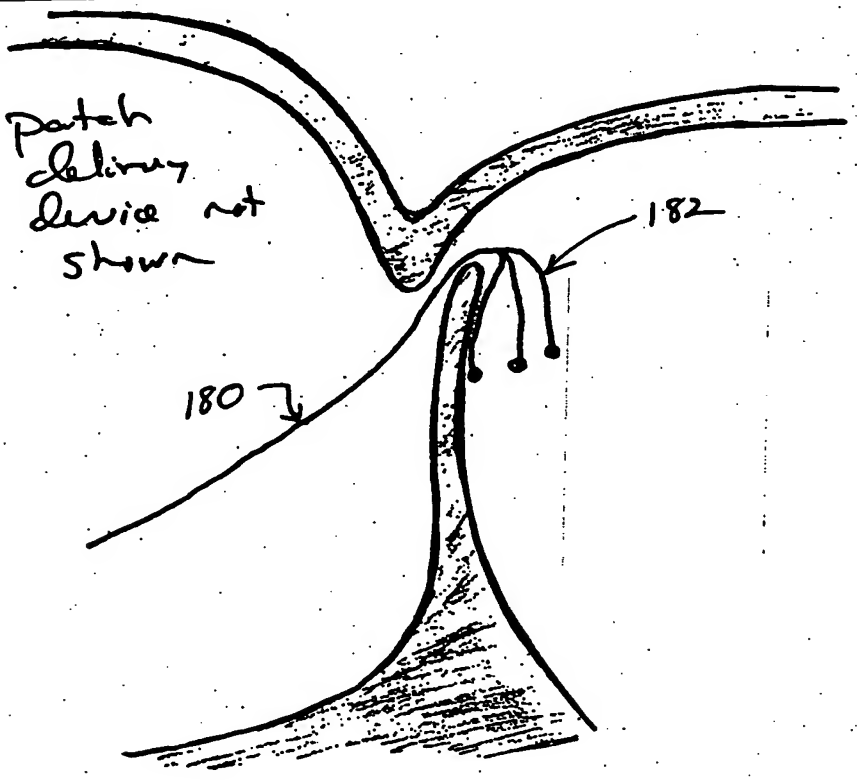


FIG-23

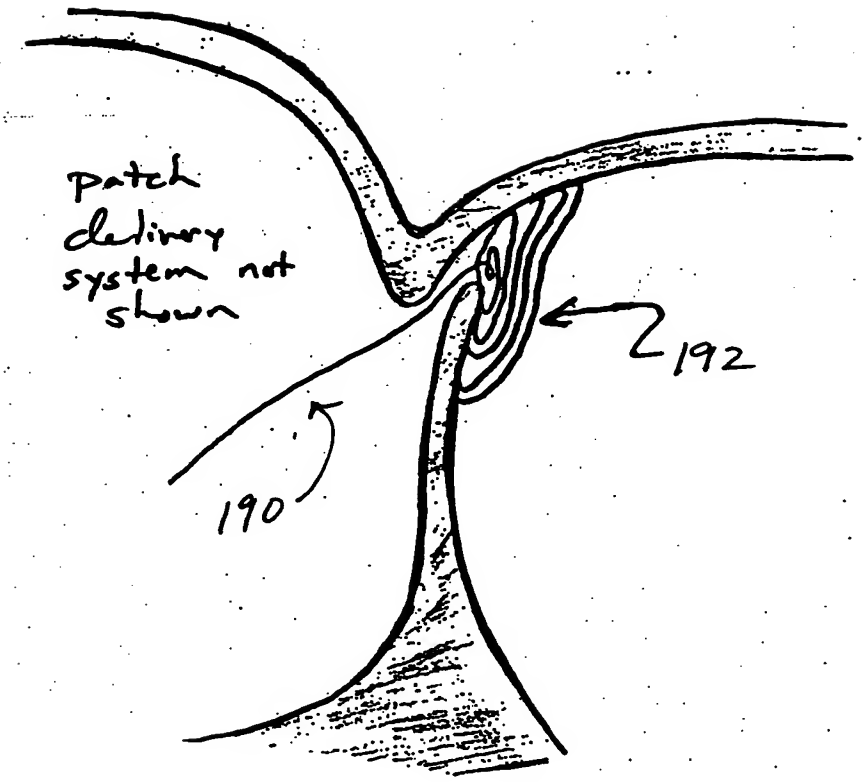


FIG- 24

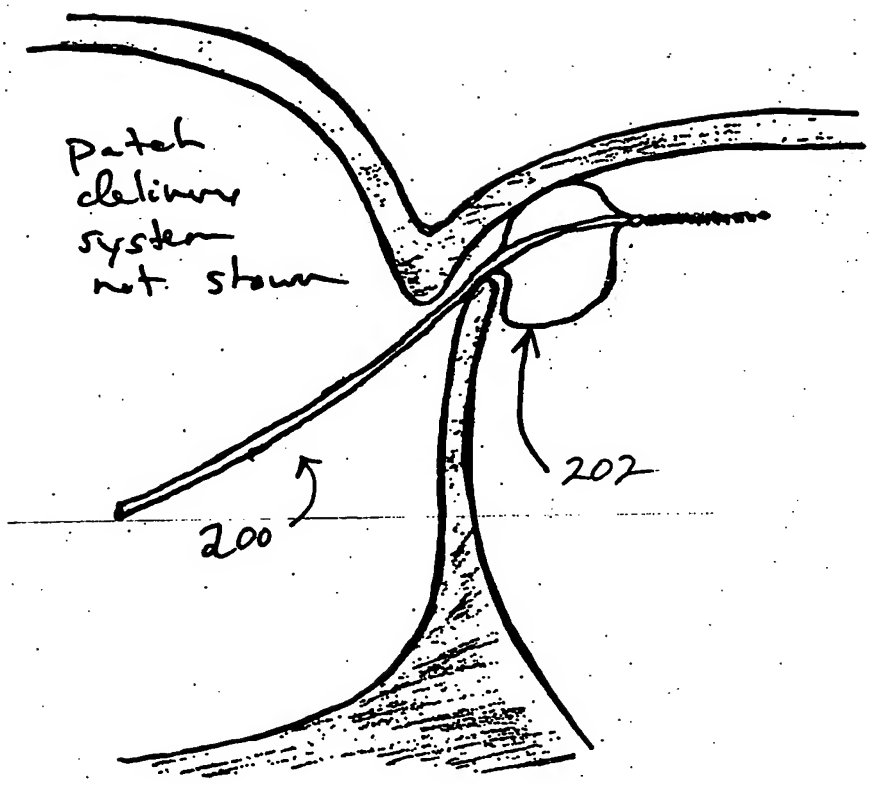


FIG- 25

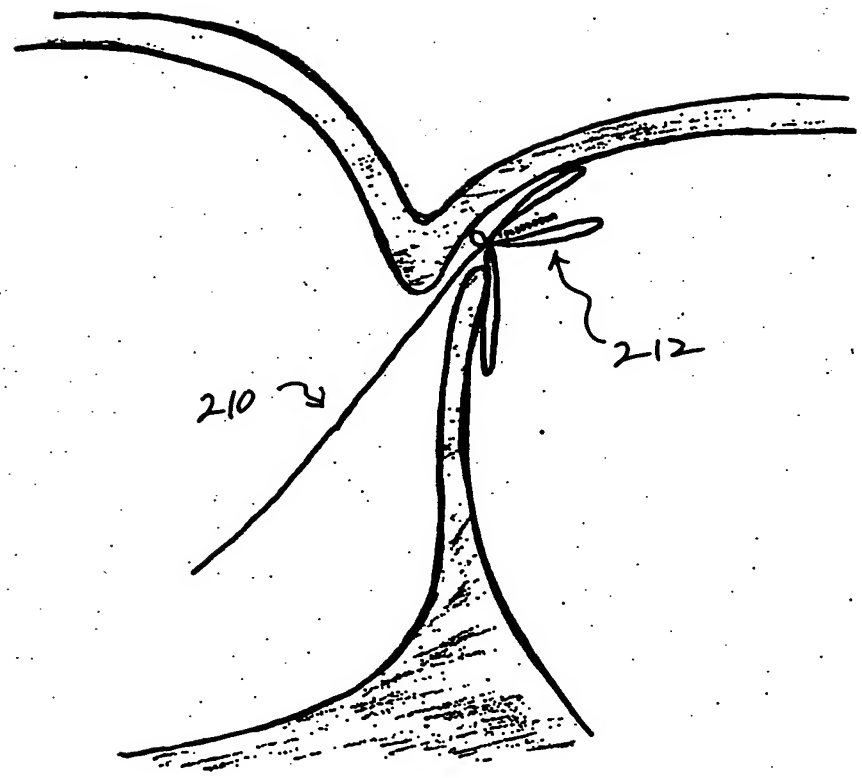


FIG- 26